Midwest ISO Value Measures Update

Michigan Planning Consortium

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How Might Value Measures be used in a Value-Based Planning Approach?

Current Focus

- Expanded business case analysis / comparison of alternatives
  - Today, projects in MTEP are evaluated only on RECB I and RECB II criteria, which do not capture total benefits or value.
  - Applying the value measures would allow for a more consistent and holistic assessment of project value.
- Cost allocation
  - Value measures could provide additional criteria for determining cost allocation, or even cost allocation eligibility
- Support for justification of individual business cases at the state or local level
  - Projects may have benefits other than those captured by a universal list of metrics; value measures outside of that universal list could be applied to those projects and used to enhance the business case.

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Status of the Value Measure Approach

- In 2007, the Midwest ISO collaborated with stakeholders to identify value measures to include in the development of the value measure approach.
- The effort began with a list of 34 metrics that were categorized as either quantitative, qualitative, or risk measures.
- The list was narrowed through stakeholder discussion and voting to a subset that could be universally applied to all projects as a mechanism to compare business cases and evaluate alternatives.
- This process resulted in 13 value measures being identified for inclusion in the further work efforts around the “universal metric” approach

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Metric Categories

- **Quantitative measures** capture the “traditional” benefits of transmission infrastructure whose value can be readily quantified.

- **Qualitative measures** are value drivers for transmission infrastructure that should be considered, but are not readily quantifiable on dollars or benefit – the public good properties of transmission systems.

- **Risk measures** indicate the potential barriers or uncertainties around a proposed project achieving the expected benefits.

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Quantitative Measures

Included	Omitted
• RECB II Benefit/Cost Ratio (LMP Cost Savings and Adjusted Production Savings) • Reserve Margin • Losses	• Net Present Value of expected project cost

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Qualitative Measures

Included

- Relieves a Narrowly Constrained Area (NCA)
- Improves certain reliability criteria
- Length of time before project breaks-even
- Power per square foot of right-of-way (ROW)
- Reduction in emissions (CO2, SO2, NOx, Mercury)

Omitted

- Increase the variety of resources available to the area
- Decrease in expected unserved energy
- Maintaining the feasibility of Financial Transmission Rights (FTRs)
- Project qualifies as an advanced transmission technology
- Increases access to Demand Side Management
- Change in Exports / Imports Ratio
- Improves access to generation that would negatively impact water quality
- Improves access to generation that would increase waste production
- Impact on underlying system
- Higher voltage vs. number of lines
- Mitigation of market power (even if not a NCA)
- Length of time to complete project

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Risk Measures

Included

- Number of states involved in approval process
- Percentage of new vs. existing ROW the project uses
- Number of landowners involved in attaining order
- Project is response to regulatory policy of state(s) in which it resides or to federal policy
- Impact of ROW on environment

Omitted

- Total length of transmission project
- Change in project value with increases in Renewable Portfolio Standards (RPS)
- Change in project value with legislation to reduce CO2
- Potential for other regulatory policy changes
- Percentage of company's rate base project will represent
- Project utilizes advanced transmission technology
- Likelihood project will be seen as a high risk for investors
- Stakeholder support - % of Planning Advisory Committee (PAC) sectors that support project
- Project has one or more Transmission Owner (TO) sponsors
- Project is a direct response to federal policies

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Sample Application of Value Measures

SAMPLE

- Projects and/or portfolios of projects will be assessed to determine value and cost allocation basis based on some combination of cost benefit ratios, value scores, and minimal risk – to be determined
- The goal is to produce fewer future regrets should alternate conditions to those forecasted develop by selecting the project with:
  - The highest benefit and value
  - The least change in that value across various potential future states
  - The lowest risk

Project	B/C	Qualitative	Robustness	Risk
A	3.0	50	1.00	60
B	2.7	50	0.40	50
C	1.5	40	0.75	70
D	2.4	75	0.10	40

- B/C = average benefit/cost ratio using all quantitative measures for a project across all Futures.
- Qualitative = summation of weighted qualitative value measures for each project.
- Robustness = standard deviation of the Quantitative Benefit/Cost Values from each Future.
- Risk = summation of weighted risk measures, where the higher the risk value the riskier the project is considered.

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Next Steps for Value Measure Approach

- The measures identified for inclusion are currently being applied to two example projects under each of the futures to test and refine the analysis methodology so they can be used consistently in business cases and in project evaluations and comparisons in MTEP 2009
  - Results for the two sample projects will be presented at the Planning Advisory Committee, likely early first quarter 2009
- Efforts also continue on the development of methodologies to assign scores/values to qualitative and risk results and to aggregate results under each future into a single score/value for each project.
- Work on using the measures to qualify the projects for cost sharing under some category other than “Other” will be rolled into the RECB efforts about to get underway.
  - RECB Task Force to be re-formed this year; exact schedule for completion TBD.

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